

Claims

What is Claimed is:

- 5 1. Waterborne cathodic electrodeposition (CED) coating agents comprising resin solids and optionally pigments, fillers and conventional coating additives, wherein said CED coating agents comprise at least one bismuth complex with ligands selected from the group consisting of hydroxyquinolines, 1,2-dioximes, 1,3-dioximes, and N,N'-diarylthiocarbazides and combinations thereof in an amount of 0.1 wt. % to 10 2.5 wt.%, calculated as bismuth and based on the resin solids.
2. The CED coating agents of claim 1, wherein the ligands are selected from the group consisting of 8-hydroxyquinoline, diacetyl dioxime, N,N'-diphenylthiocarbazide and combinations thereof.
3. The CED coating agents of claim 1, wherein the quantity proportion of the at least one bismuth complex is 0.5 wt. % to 2 wt. %, calculated as bismuth and based on the resin solids of the CED coating agent.
- 40 4. The CED coating agents of claim 1, wherein the rein solids comprise a cationic resin having a weight average molecular mass (MW) of 300 to 10,000 and an amine value of 20 to 250 mg KOH/g.
5. The CED coating agents of claim 1, wherein the CED coating agent is 25 contaminated with pretreatment material.
6. The CED coating agents of claim 1, wherein the CED coating agent is contaminated with 20 ppm to 300 ppm of phosphate.
- 30 7. A process for the CED coating of electrically conductive substrates using a CED coating agent according to claim 1.

8. The process of claim 7, wherein the substrates are metal substrates.

9. The process of claim 8, wherein the metal substrates are metal substrates which have undergone a conversion pretreatment.

10. The process of claim 9, wherein the conversion pretreatment is a conversion pretreatment including phosphating and optionally passivating.

11. The process of claim 7, wherein the substrates are substrates selected from the group consisting of automotive bodies and body parts.